Intellectual capital disclosure

Duff, Angus

Published in:
Journal of Intellectual Capital

DOI:
10.1108/JIC-06-2017-0079

Published: 09/07/2018

Document Version
Peer reviewed version

Intellectual capital disclosure: Evidence from UK Professional Accounting Firms

Abstract

Purpose

The purpose of this paper is to examine the extent and quality of voluntary intellectual disclosures (ICD) by professional accounting firms (PAFs) in the United Kingdom (UK).

Design/methodology/approach

The research method adopted for this study is content analysis considering the ICD in firms' annual reports, corporate social responsibility reports, websites and recruitment materials. The sample for this research is based on 20 PAFs ranked by fee income. The paper employs institutional theory as its theoretical lens.

Findings

Findings show that ICDs vary across different forms of reports. The most frequently reported disclosure category is human capital, while the least reported category is internal capital. Monetary disclosures are most likely to relate to internal capital whilst pictorial disclosures are most likely to relate to human capital.

Research limitations/implications

The sample size of the study is relatively small reflecting the extreme market concentration of accounting services in the UK and internationally. Future research can conduct a longitudinal study to capture the trend of reporting practices and consider narrative and discursive approaches to ICD.

Originality/value

No previous studies of intellectual capital (IC) disclosure have considered ICDs in professional service firms that are in themselves rich sources of human capital. Furthermore, the investigation uses a wide range of communications and assesses monetary, non-monetary, narrative and pictorial disclosures. This research extends both the IC disclosure and PAFs' literatures.

Keywords: accounting industry, intellectual capital reporting, institutional theory.

1. Introduction

This paper aims to contribute to the empirical understanding of IC disclosure (ICD) within professional accounting firms (PAFs) in the United Kingdom (UK) and quantify their empirical relationship. This is achieved by investigating the ICD practices of the largest 20 professional service firms (firms) providing accounting-related services in the UK. Significant recognition has been given to the role intellectual capital (IC) plays in determining organisational strategy and value creation. Businesses today are increasingly dependent on knowledge-based resources, rather than on the traditional production of wealth using industrial, tangible assets (Ricceri, 2008). Toms (2002 p.258) suggests that "intangible asset creation occurs through enhanced reputation and disclosure influences the external perception of reputation".

PAFs are chosen for the purposes of this investigation for three reasons. First, it is the knowledge-intensive nature of advisory work requires the production of intellectual resources. Consequently, PAFs are expected to be rich sites of IC. Second, firms also fulfil a significant public interest mission (Dellaportas and Davenport, 2008; Lee, 1995; Mitchell *et al.*, 1994), in their provision of independent audit and assurance services, which is a core service line for the accounting industry. The public interest role is performed by undertaking an audit and assurance exercise funded by the client, but for the benefit of investors, employees, regulators and other interested third parties. Consequently, the auditor acts as a legitimacy agent and, by virtue of their reputation in the market, as a competent and independent third-party convey legitimacy to their client. PAFs aim to enhance their reputation, allowing the production of quasi-rents that enable them to charge a premium for their services relative to lower-quality suppliers (Arruñada, 1999; Duff, 2009). These quasi-rents allow the maximisation of IC and partner equity. Third, the accounting industry trains large numbers of graduates each year, adding to the industry's human capital. This investment in training is considerable, as is its impact on the UK economy.

The paper's contribution occurs in two ways. First, a theoretical contribution whereby the construct of prestige from the institutional theory (IT) literature is adopted to provide an interpretation of observed patterns in ICD practice in the accounting industry in the UK. Specifically, how firms use ICD to convey legitimacy, status and reputation to those evaluating audiences who consume firms' corporate communications. Second, it makes an empirical contribution through a consideration of three research questions: whether the frequency of ICDs is related to firm size; how ICDs ae distributed in different forms of corporate reports produced by the firms; and a consideration of the relationship between the form of disclosures and the incidence of ICDs.

The research has three significant and attendant findings. First, the business of communicating IC is a antecedent of communicating legitimacy, status and reputation within and about the accounting industry. Second, there exist a wide-range of media aimed at many and varied different audiences who consume the ICDs. These include clients, employees and talent considering joining the firm[i]. Third, many ICDs that are presented in websites and recruitment materials are produced in the hope of recruiting high-quality graduates that the industry requires to operate and be globally competitive against other professional service advisors.

This paper is structured as follows. Section two discusses ICD and the accounting industry. The third section describes the theoretical framework for the analysis: legitimacy, status and reputation which collectively describe prestige. Section four provides an overview of prior empirical research. An explanation of the content analytic method used follows in section five. Section six reports the findings. The final section provides concluding comments.

2. The accounting profession: intellectual capital definitions and literature review

2.1 The UK accounting industry

The UK accounting industry is characterised by a high degree of market concentration, with the four largest firms (the Big Four) earning fee income of nearly £9 billion (Accountancy Age, 2015) – see Figure 1. By contrast those 46 firms ranked 5 to 50 in terms of fee income, earned just £3.2 billion. Big Four firms have between 622 and 967 partners, whereas the mid-tier of firms ranked 4 to 20 by fee income have between 40 and 188 partners.

Figure 1 here

As this study is concerned with PAFs, it is important to have some understanding of the significance of accounting industry in the UK to employment and commerce. UK PAFs will be the largest recruiter of graduates in the UK with some 4,600 vacancies expected in 2017 (High Fliers, 2017).

Three of the professional accountancy bodies operating in the UK, Institute of Chartered Accountants of England and Wales (ICAEW), of Scotland (ICAS) and in Ireland (CAI) train large numbers of the graduates hired by the firms each year. The Financial Reporting Council (FRC) (2017) identifies the six chartered accountancy bodies have some 342,000 members at 31st December 2016 along with 164,000 student members. The Association of Chartered Certified Accountants (ACCA) also trains 19,000 students in public practice, 15% of its student membership (FRC, 2017). It is common for many students to leave public practice on qualification to gain employment in commerce or the public-sector; only 24% to 36% of ACCA, ICAEW, ICAI and ICAS members were employed in public practice in 2016 (FRC, 2017). Consequently, PAFs play an important role in the preparation of the UK professional accountant, in a range of occupational environments.

2.2 Intellectual capital

Intellectual capital describes the knowledge resources or intangible assets of an organisation. The term has become popular in recent times because of the importance ascribed to intellectual resources in today's knowledge economy. However, many IC elements are not recognised by International Financial Reporting Standards and are consequently excluded from an organisation's financial accounts. For example, in the context of a PAF, patents would be capitalised as financial assets; yet other intangibles such as the knowledge of its employees, the reputation of the firm and its ability to levy premium fees for its services would not be capitalised.

A number of approaches have been adopted to understand the linkage between IC and business performance (Ricceri, 2008). A frequently used accounting definition of IC is the difference between a firm's market value and the net book value of its assets. However, some scholars argue that such stock-based definitions are problematic as market values fluctuate as a consequence of market sentiment, rather than the fundamental value of the company's cash flows (e.g., Garcia-Ayuso, 2003; Beattie and Thomson, 2007; Striukova *et al.*, 2008).

A contrasting approach is the scorecard method, or flow approach, whereby an organisation's IC is evaluated from the perspectives of different stakeholders. Scorecard approaches operate in different guises, such as the Balanced Scorecard (Kaplan and Norton, 1992), Sveiby's (1997) Intangible Asset Monitor and Skandia's Business Navigator (Edvinsson, 1997). Stock approaches attempt to assign a monetary value to IC; by contrast, flow approaches emphasis the need to contextualise IC within the organisation so its linkages to business performance can be understood.

Although the conceptualisation and measurement of IC remains contested, a broad consensus exists about the categorisation of IC. Three major categories of IC are defined by: (i) internal (structural) capital; (ii) external (relational) capital; and (iii) human (employee/partner) capital. Each of these three categories are recognised by the influential Measuring Intangibles to Understand and Improve Management Guidelines (MERITUM) (2002) established as part of a European Union-sponsored

research project aimed at providing a reliable method of valuing intangibles. Table 1 provides a summary of the three IC categories.

Table 1 here

IC is not simply the sum of the three forms of IC, but reflects the ability of the organisation to allocate (static) resources to undertake (dynamic) activities, termed 'connectivity' (Habersam and Piber, 2003), a facet of IC recognised by the MERITUM guidelines.

A number of content analytic studies of IC in single-country contexts are available. For Australia, see Guthrie and Petty (2000) and Abhayawansa and Guthrie (2014); Canada, Bontis (2003); India, Singh and Kansal (2011); Ireland, Brennan, (2001); Italy, Bozzolan *et al.* (2003); Malaysia, Goh and Lin (2004); South Africa, April *et al.*, (2003); Sri Lanka, Abeysekera and Guthrie (2005). In addition, five studies are available that survey multiple countries (Bozzolan *et al.*, 2006; Guthrie *et al.*, 2007; Vemaele *et al.*, 2005; Vergauwen and van Alem, 2005; Vemaele, Vergauwen and Smits, 2005; Wang et al, 2016; Wagiciengo and Belal (2012); White *et al.*, 2010. To date, only six studies carry evidence of ICDs in the UK (Bezhani, 2010; Bozzolan *et al.*, 2006; Campbell and Rahman, 2010; El-Bannany, 2008). Li *et al.*, 2008; Struikova *et al.*, 2008). The proportion of disclosures across IC categories is shown in Table 2.

Table 2 here

It is common for ICD studies to report information on multiple industrial sectors, with ICDs frequently found to be industry-specific. Beattie and Thomson (2007) propose that a research opportunity exists to consider whether industry-specific standardised metrics can be developed, as a precursor to the development of ICD standards. ICD content analytic studies have developed to include information about the form of disclosure, whether quantified in monetary terms, or non-monetary

terms, or in narrative form (Guthrie *et al.*, 2007; Struikova *et al.* 2008). However, to date, no published studies have considered the role of visual material (photographs and pictures) to content analytic studies of ICD. This is an important omission as the visual provides a significant means of communicating intangibles (Davison, 2010). The present study is novel as it: (i) uses a wide range of corporate reports including recruitment literature; (ii) addresses the form of disclosure made within corporate reports including visual material; and (iii) examines the external communications of an unexplored entity, the PAF[ii].

3. Theoretical framework

Prior work considering ICD is motivated by closing the gap between the reported value of tangible assets and the unreported value of IC. Shareholders are presented with financial statements where there is a large difference between the book value and the market value of the company. This reporting lacuna is unsatisfactory as much of the source of value creation, IC, is hidden. In this study, we consider an industry founded on a partnership, rather than corporate, basis. The owners of the firms, the partners, are also its senior managers who have access to unpublished internal information regarding the value of their investment in the firm. With no investors to inform and with regulatory interest focused on transparency reporting and audit quality, there is no regulatory need for ICD.

The accounting industry is evaluated by many audiences (constituents): regulators; governments; clients; existing employees; the sizeable numbers of talent required to be recruited by the industry each year; and suppliers. As PAFs maintain a relatively low profile, their operation and presence are often invisible to the public so they need to reach out to constituents in different ways. These include involvement in professional accountancy bodies (Duff, 2017), sponsorship of philanthropic activities (Duff, 2011) and the publication of a wide variety of media to inform various audiences (or constituents) (Duff, 2016). A review of the voluminous disclosures made by individual firms across an array of different media reveals a smorgasbord of different types of ICD reported in different ways.

IT suggests that organisations use external reporting and communications as a means of managing social evaluations by various audiences. These social evaluations are managed to allow the firms to ensure their legitimacy, their status and maximise their reputation with each evaluating audience. The legitimate, high-status, firm with a superior reputation is able to charge correspondingly more for its services. Institutional theorists use the term prestige to define the product of legitimacy, status and reputation. The additional premium available to high-prestige firms is termed a quasi-rent. Consequently, the production of quasi-rents enables firms to increase intellectual and technological investment in their firms creating barriers to entry and, in turn, maximising partner wealth. Each of the three constructs are summarised in table 3. Successful firms ultimately seek to achieve a position of optimal distinctiveness (Zhao *et al.,* 2017) by achieving the sameness to be legitimate while emphasising differences to enhance reputation (Deephouse, 1999).

Table 3 here

Consequently, ICDs form an important part of the accounting industry's communication strategy. Using the theoretical lens of IT we would expect firms to be reporting approximately similar kinds of ICD to be seen as legitimate. We would anticipate firms within similar status groups (e.g. Big Four, large mid-tier, small mid-tier) to make similar types of disclosure that reflect their honorific position within a status group. Finally, it is expected that the higher reputation Big Four firms will make greater use of multiple media and make more voluminous and quantified disclosures of IC in the pursuit of superior reputational claims.

Legitimacy is binary: an organisation is considered relevant, or irrelevant, but not more legitimate than competitors. However, the organization may become legitimate to more constituents (Deephouse *et al*., 2017). Legitimate organisations frequently share similar forms or structures. Consequently, we would expect to find that PAFs promote similar types of ICDs using similar forms of media. The nature of legitimacy is to convey authority to the organisation: a political authority.

Status is 'the relative position of social groups within a hierarchy of honour' (Deephouse et al., 2017 p.60). It is socially constructed and relates to groups, rather than an individual organization. Each group ranked is some sort of order of esteem (Benjamin and Podolny, 1999). If an organisation within a status group suffers failure then other group members feel the negative effects. Consider the failure of (then) Big Five firm Andersen, which heralded the imposition of external regulation on the accounting industry. Differentiation exists between groups, with lower status groups imitating higher status groups to enhance their status. Status group membership is subject to grace and favour and is potentially economically irrational (Lin, Yang and Arya, 2009; Washington and Zajac, 2005) but is honorific, where members assume non-meritocratic benefits granted to them by society.

Reputation is an evaluation of how an organization may behave, based on views of prior performance. Reputation is fundamentally economic, rather than honorific like status or dichotomous like legitimacy. It focuses on individual organisations, rather than groups of organisations, in contrast to status. Each organisation is ranked on a continuous scale, according to an assortment of measures. That is, organisations compete with each other to establish reputation. It is not a zero-sum game, success is at another's expense. Being placed on a continuous scale motivates organizations to attempt to differentiate themselves from one another, however minimal the differences may be. Reputation derives its power from perceptions of past behaviour and performance which evaluating audiences assume predict how the organization will perform in the future (Rindova et al., 2007; Benjamin and Podolny, 1999). A superior reputation reduces concerns about quality (Rindova et al., 2007), allowing the organisation to generate quasi-rents through premium fees (Arruňada, 1999), creating a source of competitive advantage for the organisation and enhancing its profitability (Fombrun and Shanley, 1990). However, assessing the quality of some services is often difficult, encouraging signalling. Examples of positive signals an organisation might

provide are high-quality inputs (e.g. talent) and via process technologies (e.g. assurance processes, technology and training).

4. Research methods

The study employs content analysis as an objective way of classifying the frequency and volume of disclosures within the media being analysed (Duff, 2016). Content analysis is the most widely-applied method of data collection employed by ICD researchers (Abeysekera and Guthrie, 2005; April *et al.*, 2003; Beattie *et al.*, 2002, 2004; Bontis, 2003; Bozzolan *et al.*, 2003, 2006; Brennan, 2001; Guthrie *et al.*, 2004; Guthrie *et al.*, 2007; Guthrie and Petty, 2000; Struikova *et al.*, 2008). The method has also been widely used in the field of corporate reporting research (see Beattie, 2005). Content analysis subjects published information to systematic examination (Guthrie *et al.*, 2008; Krippendorff, 2004; Saunders, 2008). There therefore exists both a body of evidence against which results can be compared. There is also a corpus of literature that describes how content analysis may be applied to the examination of different types of corporate reports.

4.1 Defining IC categories and *elements*

Beattie and Thomson (2007, p.135) identify that "content analysis requires a description of how to know when a category occurs, any qualifications or exclusions and examples of categorised information". Consequently, it is important to establish which ICDs are to be captured to allow clear interpretation of the findings by readers and ensure they are replicable by other researchers.

Relatively little consensus exists about how IC is defined and categorised, with "boundary problems" existing in relation to the IC construct itself (Beattie and Thomson, 2007 p.135). For the purposes of this study, the framework employed by Guthrie and Petty (2000) and Struikova *et al.* (2008) is used to facilitate comparison with prior studies, to improve generalisability and assist replicability. The ICD

definitions are adapted for use with UK PAFs and a scorecard created to classify these disclosures – see Table 4.

Table 4 here

4.2 Sample and *scope of disclosures analysed*

The sample included the 20 largest PAFs operating in the UK, ranked according to fee income (AccountancyAge, 2015). The firms were subdivided into three categories by fee income: (i) Big 4 firms; (ii) firms ranked 5 to 11 by fee levels (Upper Mid-tier); and (iii) firms ranked 12-20 by fee levels (Lower Mid-tier). Some consideration was given to disclosures made by firms outside the Top 20. However, the availability, volume and sophistication of reporting made by these enterprises was much more limited and determined their exclusion from this study.

For the purposes of this investigation, the reports used were dictated by the objectives of codifying ICDs made by UK PAFs. Therefore, a range of reports was examined beyond the annual review or annual report published by the majority of large PAFs. Documents used in this investigation included: annual reviews (11 cases); CSR reports (1 case); websites (20 cases); recruitment websites (20 cases); and recruitment brochures, downloadable from the firms' websites (4 cases).

In the case of annual reports, all material is analysed with the exception of the financial statements and notes to the accounts, which were not found to yield any significant level of disclosure. Therefore, all voluntary and mandatory disclosure is analysed. All the content of CSR reports, recruitment websites and recruitment brochures are analysed for ICDs. For websites, the boundary was set at including all documents hosted on the firms' websites at the time of downloading. The only exclusions related to the services pages that included simple descriptions of the firm's service offerings, unrelated to its production of knowledge-based resources.

As other researchers have noted, organisation's websites are a dynamic entity and subject to ongoing change or maintenance (Adams and Frost, 2004; Struikova *et al.*, 2008). The data sample was gathered over the course of a fortnight in March 2015[iii]. The physical volume of navigation and printing made it impractical to access all the data at a given point in time. In each instance, an individual firm's web reports were collected in a single day. Other reports, such as annual reviews, CSR reports and recruitment literature, are produced in hard copy or as pdf files were not subject to daily change.

In some instances, firms made multiple disclosures of the same material. For example, similar disclosures would appear in the annual review, the CSR report, website and also recruitment literature. In each case the disclosure would be treated as four cases rather than just one. As Beattie and Thomson (2007 p.141) explain:

> The extent to which IC disclosures are repeated is also of interest. It is common for the same information to appear in different sections of annual reports.

Therefore, the study recognised and made use of this redundancy in management's disclosure of ICDs, recognising the value management place on these disclosures (Beattie and Jones, 2003). The prior literature considering disclosure within annual reports and corporate websites of ICDs (Struikova *et al.*, 2008) finds that the degree of overlap between the two media is relatively limited. This was also the case within the present study, where it appeared to be policy to differentiate disclosures between different media to make the firms' business communications appear as fresh as possible.

4.3 The identification and *quantification of ICDs*

As the investigation is limited to 20 UK PAFs, this facilitates the use of manual searching, rather than being limited to electronic searching of key words. As Beattie and Thomson (2007) note, manual analysis is a time and labour-intensive process, but overcomes limitations with inferior electronic searches. Typical problems with electronic techniques include: the identification of synonyms and

words with multiple meanings; an inability to understand the context of what is being reported (Milne and Adler, 1999) and the use of discourse specific to the firm (Beattie and Thomson, 2007).

The coding of ICDs was undertaken by a single experienced coder, the author. A first pass was made of all the data by the author. The coding was then checked again by the author, three months after undertaking the initial coding and the results compared to the original coding. Any differences were identified and the material was re-coded. Differences between the coding of the samples and the original were found to be immaterial.

Prior studies applying content analysis to financial reports differentiate between whether a disclosure is quantified or is narrative (Beattie and Thomson, 2007; Milne and Adler, 1999; Struikova *et al.*, 2007;). It is also common for quantitative disclosures to be interpreted as carrying greater weight than discursive information as "specified, quantifiable and verifiable information will be perceived to be of higher quality" (Toms, 2002 p.261). Other researchers use a system of weights applied to the level of quantification to establish the importance of the information being disclosed (Bozzolan *et al.*, 2003; Robertson and Nicholson, 1996). This investigation intends to extend prior analysis of IC by the inclusion of pictorial material in line with contemporary trends in financial reporting research. Accordingly, the present investigation differentiates between the monetary quantified, non-monetary quantified, discursive and pictorial disclosures.

The utility of quantification is clearly identified by: "collection of volumetric ICD data facilitates comparisons within a particular report" while "the count of instances of disclosure... provides a more credible comparison across different types of report" (Struikova *et al.* 2007 p.304). Given the discussion about the problems of quantification, the present study counts instances of disclosure of IC. This method is comparable to practice in recent study of ICs (Guthrie and Petty, 2000; Struikova *et al.*, 2008). At the same time, this study collates volumetric data on ICDs to allow comparisons

within reports. The process of identification and coding recorded 6,837 ICDs in the sample of 20 firms. The analysis of these disclosures appears in the subsequent section.

5. Results of ICD analysis

5.1 ICD by firm size

The proportions of internal (structural capital) disclosures for the 20 firms examined in the study are in line with Bozzolan *et al.* (2006) and Struikova *et al.* (2008) – see table 2. However, the findings are not comparable with the three prior UK studies in terms of external (relational) capital where our sample has the lowest proportion (27%) compared to 34% (Li *et al.*, 2008) and over 60% (Bozzolan *et al.*, 2006; Struikova *et al.*, 2008). Human (employee) capital is the most reported IC category in this study, an interesting finding when compared with prior research where human capital elements are least frequently reported on.

The mean numbers of ICDs per firm are reported in Table 5 per size group and in terms of the types of disclosure (monetary, non-monetary quantified, narrative and pictorial). A size effect is found that is consistent with prior studies of ICDs (Struikova *et al.*, 2008). In terms of ICDs, each of the Big Four makes on average 770 disclosures, compared to just 178 disclosures for Lower Mid-tier firms. Quantified disclosures, both monetary and non-monetary, are concentrated in the reports of the Big Four firms [iv]. Similar to Struikova *et al.* (2008) we conclude that larger organisations make more quantified ICDs. This finding lends support to the expectation that quantification makes the larger firms' ICDs less imitable by the smaller firms, enhancing their reputation and the production of IC.

The most widely reported ICD category was human capital (48% of all ICDs). Human capital disclosures were the largest component of Big Four and Upper Mid-tier firms (49%, 52%) compared to the Lower Mid-tier (40%). External and internal capital account for 27% and 25% of all ICDs. However, there is a noticeable size effect with manifestations of external capital accounting for a

higher proportion of their (less voluminous) ICDs in Lower Mid-tier firms (42%) relative to Big Four firms (21%). In Lower-Mid-tier firms the overall lower numbers of ICDs mean that routine reporting of brands, clients and client satisfaction/loyalty dominate, relative to the more varied and heterogenous reporting that occurs in the largest of firms. Similarly, external capital is greatest in Big Four firms (30% on average of ICDs) relative to Upper and Lower-Mid tier firms (22% 19% on average of all ICDs). The greater concentration of internal capital in Big Four firms reflects a desire to communicate matters relating to management philosophy, corporate culture and management processes.

Categories that were infrequently reported were: the internal capital elements information and communication systems (1.5% on average); and the external capital elements favourable contracts/licensing and research and development (0.6% on average). These findings are perhaps unexpected as the Big Four in particular have invested substantial resources in audit and assurance technologies with the development of sophisticated platforms automating much routine and labour-intensive work. The move towards big data and technology makes it difficult for the smaller firms to imitate the activities of the largest firms, creating a barrier to entry in some accounting services markets. However, it could be that the largest firms find it difficult to communicate their market advantage in technological development in that information systems and associated research and development are difficult to communicate via the types of media analysed here. Alternatively, they may not wish to draw attention to the role of technology in reducing competition in the accounting services markets for fear of greater regulation.

Table 5 here

5.2 ICD by element and *firm size*

Table 6 reports firms' ICDs by firm size group analysed by ICD category (italics) and element (not italics). Human (employee/partner) capital disclosures (Panel C) account for 48% of ICDs with

internal (structural) capital disclosures (panel A) and external (relational) capital (panel B) disclosures each around a quarter of total disclosures. The proportions of internal (structural capital) disclosures for the 20 firms examined in the study are in line with Bozzolan *et al.* (2006) and Struikova *et al.* (2008). However, the findings are not comparable with the three prior UK studies in terms of external (relational) capital, where our sample has the lowest proportion (27%) compared to 34% (Li *et al.*, 2008) and over 60% (Bozzolan *et al.*, 2006; Struikova *et al.*, 2008).

ICDs are related to firm size in terms of volume of disclosures and also category and element. Big Four firms make on average 379 ICDs per firm compared to just 70 per Lower Mid-tier firms. This finding could be expected in terms of the volume of discretionary material that the Big Four publish about themselves to a wide range of stakeholders.

Human (employee/partner) disclosures (Panel C) are skewed towards the Big Four (49%), although these disclosures still make up a considerable proportion of smaller firms' (less voluminous) ICDs (40%). Similarly, the Big Four undertake proportionately more disclosure of internal (structural) capital (30%) relative to their smaller competitors (22% and 19%). Much of this gap is accounted for by detailed reporting of management processes and philosophy.

Smaller firms make significant use of external (relational) capital as part of their ICD reporting mix. Panel B, Table 6 identifies external (relational) capital accounts for 40% of ICDs made by Lower Mid-tier firms, compared to 21% of the Big Four's ICDs. However, these disclosures tend to be concentrated in elements relating to brands, clients and client satisfaction that are popular disclosures for all firms analysed. The Big Four by contrast make much more use of categories relating to the reputation of the firm and business collaborations.

Table 6 here

ICDs are examined, first, as a proportion of IC disclosures in each form of corporate document (Table 7) and second, by the mean number of disclosures per document type (Table 8). Recruitment websites and associated literature account for 51% of ICDs. A significant proportion of ICDs are found in web pages (22%) and the annual review (23%).

Table 7 here

As not all firms produce each form of report, it is useful to consider ICDs aggregated by the number of firms producing each type of corporate report. Table 8 reports ICDs by report type per firm, along with an average across all reports as a means of comparison. Internal capital disclosures are concentrated in the annual review and CSR report (mean 54 and 97 disclosures per firm respectively). External capital disclosures are more evenly distributed across the annual review, CSR report and firms' web pages (mean = 50, 56 and 41 per report type). By contrast, recruitment websites and recruitment literature make less reference to either internal capital disclosures (mean = 23 and 22 disclosures per report type) or external capital disclosures (23 and 17 disclosures per report type). Human (employee/partner) capital disclosures are heavily weighted towards recruitment websites (mean = 113 disclosures per firm), the CSR report (77 disclosures per firm) and recruitment literature (mean = 46 disclosures).

Examining IC disclosures by report type on a proportionate basis indicates that the annual review report is the most balanced document in respect of its mix of ICDs, with internal capital representing 38% of disclosures, external capital 35% of disclosures and human capital 27% of disclosures. Nearly half of the ICDs reported in firms' web pages relate to external capital. By contrast, 71% of the ICDs found on firms' recruitment websites describe human (employee/partner) capital. Hard copy recruitment literature, where available, is more balanced, with human (employee/partner) capital accounting for 54% of ICDs in these reports and a greater representation of internal (structural) (26%) and external (relational) capital (20%). The differential proportionate representation of ICDs in

recruitment websites versus recruitment literature reflects the similar number (i.e., volume) of internal and external capital disclosures. Recruitment websites, which theoretically have no limits to the volume of disclosure as the price of reproduction passes directly to the user, relative to hard-copy recruitment literature, post more than twice the volume of information about employee capital on their websites.

Firms are selective about the media they choose to report ICDs. The traditional annual review is seen as a balanced report that needs to communicate a mix of information about the three categories of ICDs. Web pages communicate much more information about the firms' external (relational) capital, with a particular emphasis on their services (brands). Recruitment materials have a greater focus on communicating human (employee/partner) capital, presumably valued by potential entrants to the firm.

Table 8 here

5.3 Type of ICD and *report type*

Table 9 illustrates that monetary, quantified disclosures mostly occur within the internal (structural) capital (85% of total monetary ICDs), relating to the elements of management process (42% of total monetary ICDs) and financial relations (38% of total monetary ICDs). Relatively little quantification in monetary terms occurs within either external (relational) capital (13% of total monetary ICDs) or human (employee/partner) capital (3% of total monetary ICDs).

Non-monetary quantified disclosure is also heavily concentrated in the internal capital category (46% of total non-monetary ICDs), again largely relating to management processes (28% of total non-monetary ICDs) and financial relations (11% of total non-monetary ICDs). External capital and human capital each relate to just over one-quarter of non-monetary quantified ICDs, where the elements relating to brands (16%) and employee/partner (19%) account for the majority of the disclosures in these categories.

Narrative ICDs have a concentration in human capital (45% of total narrative ICDs) where employee/partner (19%) and work-related knowledge (12%) categories account for the majority of disclosures. Within the internal capital category (24% of total narrative disclosures), the elements of management philosophy (10%) and management processes (9%) account for the majority of disclosures. Within external capital, discursive reports are made of elements relating to brands (15%), customers (6%) and customer satisfaction and loyalty (6%).

Pictures representing ICDs relate almost exclusively to human capital (92% of pictorial ICDs), in particular the employee/partner element (89%). It is rare for visual images to present information relating to internal or external capital categories. Occasionally, depictions of clients are used to represent elements relating to customers (1%) and customer satisfaction and loyalty (2%), or graphs or diagrams to explain management processes (2%).

Evidently the reporting of IC is heavily influenced by the type of disclosures being made. Quantified disclosures, both monetary and non-monetary, tend to be clustered within the internal capital category. Narrative reporting, although skewed to human capital, is commonplace across all three IC categories. Pictorial reporting almost always relates to human capital, or occasionally, to pictures of (satisfied) clients.

Table 9 here
---

6. Conclusions

The aim of this paper was to examine the reporting of IC within leading UK PAFs by applying a content analysis of disclosures of the 20 largest firms operating in the UK using a cross-section of a wide variety of reports. Similar to other studies of ICDs, disclosure is positively related to firm size. In terms of ICDs, the smaller firms place use ICDs to communicate external capital, e.g., providing information about their brand and reports of client satisfaction. The larger firms report

proportionately more information about human capital, with the Big Four tending to provide greater reporting of internal capital.

Similar to studies conducted in other sectors, it is evident that firms use a range of media to selectively communicate IC. Disclosure is not limited to an annual review, but involves wide range of web materials and recruitment literature aimed at graduates and more experienced knowledge workers. The limited monetary quantification of IC is in contrast to voluminous narrative disclosures. When monetary disclosure occurs, it tends to be most evident in the Big Four. More extensive monetary quantification allows higher quality, larger firms to differentiate themselves from lower quality, smaller suppliers. In institutional terms, the larger firms use IC as a means of increasing their reputation. Similarly, the different volumes, forms and choices of disclosure reflect the status group firms operate in, a finding predicted by IT.

Interestingly, annual reviews were not the focal point for ICD, with recruitment materials providing the richest source of IC reports. In particular, different media were used for different purposes. The annual review and CSR report, where available, were the most informative media for internal capital. External capital tended to be best represented with web pages and the annual review, while human capital was usually located in information provided for recruitment purposes.

A relatively novel feature of this research was the consideration of the type of disclosure (monetary, non-monetary quantified, narrative, or pictorial). Narrative disclosures were dominant for all firms. When reporting was quantified, ICDs were generally located in the Big Four and the effect was even more marked for monetary disclosures. These findings support the Toms (2002) proposition that quantification makes it difficult for weaker, smaller competitors to imitate the disclosing firm, allowing the larger firm to assert its position.

The limited monetary quantification is in contrast to the volume of narrative disclosures. When monetary quantification does occur, this is geared very much towards the Big Four. As predicted, more expensive, complex monetary quantification provides a means for higher quality, larger firms to differentiate themselves from smaller, less sophisticated competitors. It is likely then that we would expect more monetary reporting in the future, given a regulatory trend towards the publication of corporate governance reports and transparency reports produced by the UK's Public Oversight Board Audit Inspection Unit. Although major firms offer far more than audit services today, ICD may provide a subtle means of limiting audit choice. Conceivably, non-Big Four firms could consider developing their disclosure regime to compete with the major players.

This research has two limitations which are suggestive of future research. First, a distinct feature of PAFs is the removal of the agency problem inherent in most for-profit organisations, i.e., PAFs are owned by an elite group of workers (partners), who are able to observe and critically comment on the strategy and operations of the firm. A quantifiable study of this nature can do little to expose how this ownership structure contributes to the development of ICD within the firm. Future research using more qualitative methods may wish to examine the motivations for ICD and conflicts such as ownership structure create in the future. Second, this investigation examines only published and written communications. The larger PAFs have developed sophisticated communication methods, particularly for the recruitment of high-quality graduate trainees, which are part of a highly competitive market between the firms and other financial services employers of knowledge workers. This investigation has not considered the verbal communications of graduate recruitment events or other presentations by firms to the communities in which they operate. Future studies of ICDs might wish to extend prior work in an evaluation of the use of developing technologies such as social media.

The investigation has two important and related implications. First, ICD is an important means on conveying prestige within the accounting industry. Firms operate in the public interest so the

legitimacy of the firm is under continuous scrutiny from a range of constituents. Also, the industry recruits large numbers of graduates each year: firms compete vigorously with each other and with other financial services employers to recruit 'the brightest and the best' (Duff, 2017). As talent is an important element of firms' competitive strategies as 'brains businesses' (Duff, 2017) how this is communicated then becomes significant. Accounting as an occupation is consistently stereotyped as dull and unexciting (Carnegie and Napier, 2010; Dimnik and Felton, 2006). Therefore, ICDs provide a means of creating a new narrative for the profession. PAFs have no shareholders or institutional investors but are partnerships where the senior managers are also the owners. The traditional agency relationship of managers and shareholders is absent. What is evident from the ICDs is the need to supply a complex nexus of constituents with IC information using different and multiple means of media and quantification with different audiences. Second, the IT construct of prestige is a useful means of explaining ICD which could be usefully extended to other domains. All the firms use IC reporting as a means of seeking legitimacy from a range of constituents. Similarly, the honorific status groups of Big Four and (Upper and Lower) Mid-tier are evident in the types and forms of reporting evident from the media sources analysed. Finally, the volumes of quantification point to the use of ICD to build and maintain reputation.

REFERENCES

Abeysekera, I. and Guthrie, J. (2005). "An empirical investigation of annual reporting trends of intellectual capital in Sri Lanka". *Critical Perspectives on Accounting* Vol. 16 No. 3, pp. 151–163.

Abhayawansa, S. and Guthrie, J. (2014). "Importance of intellectual capital information: a study of Australian analyst reports". *Australian Accounting Review*, Vol. 24 No. 1, pp. 66-83.

AccountancyAge (2015) Top 50. www.accountancyage.com (accessed 16.06.17)

Adams, C. and Frost, G. (2004). *The development of corporate websites and implications for ethical, social and environmental reporting through these media.* Institute of Chartered Accountants of Scotland, Edinburgh.

April, K.A., Bosma, P. and Deglon, D.A. (2003). "IC measurement reporting: establishing a practice in SA mining". *Journal of Intellectual Capital* Vol. 4 No. 2, pp. 165-180.

Arruňada, B. (1999). *The economics of audit quality: Private incentives and the regulation of audit and non-audit services.* Kluwer Academic Publishers, Dordrecht, Netherlands.

Duff, (2011). "Big Four PAFs' Annual Reviews: A Photo Analysis of Gender and Race Portrayals". *Critical Perspectives on Accounting*, Vol. 22 No. 1, pp. 20-38.

Duff, (2016). "Corporate social responsibility reporting in PAFs", *British Accounting Review*, Vol. 48 No. 1, pp. 74-86

Duff, (2017). "Social mobility and fair access to the accountancy profession in the United Kingdom: evidence from big four and mid-tier firms", *Accounting, Auditing and Accountability Journal*, Vol. 30 No. 5, pp. 1082-1110.

Beattie, V. (2005). "Moving the financial accounting research front forward: the UK contribution". *British Accounting Review* Vol. 37 No. 1, pp. 85-114.

Beattie, V. and Jones, M.J. (2003). "Measurement distortion of graphs in corporate reports: an experimental study*". Accounting, Auditing and Accountability Journal* Vol. 15 No. 4, pp. 546–564.

Beattie, V. and Thomson, S.J. (2007). "Lifting the lid on the use of content analysis to investigate intellectual capital disclosures". *Accounting Forum* Vol. 31 No. 2, pp. 129-163.

Beattie, V., McInnes, B. and Fearnley, S., (2002). *Through the eyes of management: a study of narrative disclosures*. Institute of Chartered Accountants of England and Wales, London.

Beattie, V., McInnes, B. and Fearnley, S. (2004). *Through the eyes of management: narrative reporting across three sectors*. Institute of Chartered Accountants of England and Wales, London.

Benjamin, B.A. and Podolny, J.M. 1999. "Status, quality, social order in the California wine industry". *Administrative Science Quarterly*, Vol. 44 *No.* 3, pp.563-589.

Bezhani, I. (2010). "Intellectual capital reporting at UK universities". *Journal of Intellectual Capital*, Vol. 11 No. 2, pp. 179-207.

Bontis, N., 2003. "Intellectual capital disclosures in Canadian corporations". *Journal of Human Resource Costing and Accounting* Vol. 7 No. 1/2, pp. 9-20.

Bozzolan, S., Favotto, F. and Ricceri, F., 2003. "Italian annual intellectual capital disclosure: an empirical analysis*". Journal of Intellectual Capital*, Vol. 4 No. 4, 543-558.

Bozzolan, S., O'Regan, P. and Ricceri, F. (2006). "Intellectual capital disclosure (ICD) in listed companies: a comparison of practice in Italy and the UK". *Journal of Human Resource Costing and Accounting* Vol. 8 No. 2, pp. 92-113.

Brennan, N. (2001). "Reporting intellectual capital in annual reports: evidence from Ireland". *Accounting, Auditing and Accountability Journal* Vol. 14 No. 4, pp. 423–436.

Campbell, D., Rahman, M.R.A. (2010). "A longitudinal examination of intellectual capital reporting in Marks and Spencer annual reports, 1978–2008". *British Accounting Review*, Vol. 42 No. 1, *pp.* 56-70.

Carnegie, G.D. and Napier, C.J. (2010). "Traditional accountants and business professionals: Portraying the accounting profession after Enron". *Accounting, Organizations and Society*, Vol. 35 No. 3, pp.360-376.

Davison, J. (2010). "[In]visible [in]tangibles: Visual portraits of the business élite". *Accounting, Organizations and Society,* Vol. 35 No. 2, pp. 165-183.
Deephouse, D. (1999). "To be different or the same? It*'s* a question (and theory) or strategic balance". *Strategic Management Journal,* Vol. 20 No. 2, 147-166.
Deephouse, D., Bundy, J., Tost, L.P. and Suchman, M.C. (2017). "Organizational legitimacy: Six key questions". In *The SAGE Handbook of Organizational Institutionalism*. (2nd Ed.) (Eds.: R. Greenwood, C. Oliver, T. Lawrence, R. Meyer), pp. 27-54. Thousand Oaks, CA: Sage.
Dellaportas, S. and Davenport, L., 2008, "Reflections on the public interest in accounting". *Critical Perspectives on Accounting* Vol. 19 No. 7, pp. 1080-1098
Dimnik, T. and Felton, S. (2006). "Accountant stereotypes in movies distributed in North America in the twentieth century". *Accounting, Organizations and Society*, Vol. 31 No. 2, pp.129-155.
Duff, A. (2009). "Audit quality three years after the fall: an empirical investigation of the views of auditors, auditees, and investors 2002 to 2005". *Managerial Auditing Journal* Vol. 24 No. 5, pp. 400-422.
Edvinsson, L. (1997). "Developing intellectual capital at Skandia". *Long Range Planning* Vol. 30 no. 3, pp. 366-373.
El-Bannany, M. (2008). "A study of determinants of intellectual capital performance in banks: the UK case". *Journal of intellectual capital*, Vol. 9 No. 3, pp. 487-498.
Financial Reporting Council (2017). *Key facts and trends in the accountancy profession*. Financial Reporting Council, London.
Fombrun, C. and Shanley, M. (1990). "What's in a name? Reputation building and corporate strategy". *Academy of Management Journal*, Vol. 33 No. 2, pp. 233-258.
Garcia-Ayuso, M. (2003). "Factors explaining the inefficient valuation of intangibles". *Accounting, Auditing and Accountability Journal* Vol**.** 16 No. 1, pp. 57–69.
Guthrie, J. and Petty, R. (2000). "Intellectual capital: Australian capital reporting practices". *Journal of Intellectual Capital*, Vol. 1 No. 3, pp. 241-251.
Guthrie, J., Cuganesan, S. and Ward, L., (2008). "Industry specific social and environmental reporting: The Australian Food and Beverage Industry". *Accounting Forum*, Vol. 32 No. 1, pp. 1-15.
Guthrie, J., Petty, R., Ricceri, F., (2007). Intellectual Capital Reporting in Hong Kong and Australia, Research Monograph. Edinburgh: The Institute of Chartered Accountants of Scotland.
Guthrie, J., Petty, R., Yongvancih, K. and Ricceri, F. (2004). "Using content analysis as a research method to inquire into intellectual capital reporting". *Journal of Intellectual Capital*, Vol. 5 No. 2, pp. 282-293.
Habersam, M. and Piber, M. (2003). "Exploring intellectual capital in hospitals: two qualitative case studies in Italy and Austria". *European Accounting Review*, Vol. 12 No. 4, pp. 753-779.
High Fliers (2017). *The graduate market in 2017*. London: High Fliers.
Kaplan, R.S. and Norton, D.P. (1992). "The Balanced Scorecard – Measures that Drive Performance". *Harvard Business Review*, Vol. 70 No. 1, pp. 71-79.
Krippendorff, K. (2004). *Content analysis: An introduction to its methodology*. Newbury Park, CA: Sage Publications Inc.
Lee, T. (1995). "The professionalisation of accountancy: a history of protecting the public interest in a self-interested way". *Accounting, Auditing and Accountability Journal*, Vol. 3 No. 3, pp. 48-69.
Li, J., Pike, R. and Haniffa, R. (2008). "Intellectual capital disclosure and corporate governance structure in the UK firms". *Accounting and Business Research*, Vol. 38 No. 2, pp. 127-159.
Lin, Z. J., Yang, H. and Arya, B. (2009). "Alliance partners and firm performance: resource complementarity and status association". *Strategic Management Journal*, Vol. 30 No. 9, pp. 921-940.
MERITUM 2002. In *Guidelines for managing and reporting on intangibles*. Cañibano, L., Sanchez, P., Garcia-Ayuso, M. and Chaminade, C. (Eds.) Madrid: Fundación Airtel Móvil.
Milne, M.J. and Adler, R.W. (1999). "Exploring the reliability of social and environmental disclosures content analysis". *Accounting, Auditing and Accountability Journal*, Vol.12 No. 2, pp. 237-256.

Mitchell, A., Puxty, T., Sikka, P. and Willmott, H. (1994). “Ethical statements as smokescreens for sectional interests: the case of the UK accounting profession”. *Journal of Business Ethics*, Vol. 13 No. 1, pp. 39-51.

Ricceri, F. (2008). *Intellectual Capital and Knowledge Management*. London: Routledge.

Rindova, V., Petkova, A.P. and Kotha, S. 2007. “Sting out: how ne firms in emerging markets build reputation”. *Strategic Organization*, Vol. 5 No.1, pp. 31-70

Robertson, D. and Nicholson, N. (1996). “Expressions of corporate responsibility in UK firms”. *Journal of Business Ethics,* Vol. 15 No. 10, pp. 1095-1106.

Saunders, M.N.K. (2008). “Content analysis”. In Thorpe, R. and Holt, R. (Eds.), *The Sage Dictionary of Qualitative Management Research*, (pp. 58-59). London: Sage;

Singh, S. and Kansal, M. (2011). “Voluntary disclosures of intellectual capital: An empirical analysis”. *Journal of Intellectual Capital*, Vol. 12 No. 2, pp. 301-318.

Striukova, L., Unerman, J. and Guthrie, J. (2008). “Corporate reporting of intellectual capital: Evidence from UK companies”. *British Accounting Review*, Vol. 40 No. 4, pp. 297-313.

Toms, J.S. (2002). “Firm resources, quality signals and the determinants of corporate environmental reputation: Some UK evidence”. *British Accounting Review*, Vol. 34 No. 3, pp. 257-282.

Vemaele, S.N., Vergauwen, P.G.M.C. and Smits, A.J. (2005). “Intellectual capital disclosure in The Netherls, Sweden and the UK: A longitudinal and comparative study”. *Journal of intellectual Capital*, Vol. 6 No. 3, pp. 417-426.

Wagiciengo, M.M. and Belal, A.R. (2012). “Intellectual capital disclosures by South African companies: A longitudinal investigation”. *Advances in Accounting*, Vol. 28 No. 1, pp. 111-119.

Washington, M. and Zajac, E. J. (2005). Status evolution and competition: Theory and evidence. *Academy of Management Journal*, Vol. 48 No. 2, pp. 282-296.

White, G., Lee, A., Yuningsih, Y., Nielsen, C. and Nikolaj Bukh, P. (2010). “The nature and extent of voluntary intellectual capital disclosures by Australian and UK biotechnology companies”. *Journal of Intellectual Capital*, Vol. 11 No. 4, pp. 519-536.

Zhao, E. Y., Fisher, G., Lounsbury, M. and Miller, D. (2017). “Optimal distinctiveness: Broadening the interface between institutional theory and strategic management”. *Strategic Management Journal*, Vol. 38 No. 1, pp. 93-113.

TABLES

Table 1: Summary of ICD categories

Category	Scope
Internal (structural) capital	Knowledge that stays within the firm at the end of the working day. It includes organisational processes, systems, cultures and management philosophy. Examples are: organizational flexibility, a documentation service, existence of a knowledge centre, the use of Information Technology, intellectual property.
External (relational) capital	Resources linked to external relationships the firm has with clients, suppliers, or regulators. It is that part of human (employee/partner) and internal (structural) capital involved with the firm's relations with stakeholders (partners, clients, suppliers) and their perceptions about the company. Examples include: image; client loyalty; client satisfaction; reputation; links with suppliers.
Human (employee/partner) capital	Knowledge that employees take with them when they leave the building. This reflects their knowledge, skills, experiences and abilities. Examples include: innovative capacity; creativity; prior experience; motivation; employee flexibility; ability to work in teams; capacity for learning; formal training and educational qualifications.

Adapted from MERITUM (2002, p.56)

Table 2: Comparison of proportion of ICDs per category in recent UK studies

ICD category	This study (%)	Li *et al.* (2008)	Striukova *et al.* (2008) (%)	Bozzolan *et al.* (2006) (%)
Internal (structural) capital	**25**	38	17	24
External (relational) capital	**27**	34	61	60
Human (employee capital	**48**	28	21	15
Total	**100**	100	100	100

Table 3: Legitimacy, status and reputation

	Legitimacy	***Status***	***Reputation***
Definition	Performs to a sufficient level, with the absence of negative problems	Relative position of social groups within an accepted hierarchy, ranking of collective esteem	An expectation of future good behaviour, based on perceptions of past behaviour
Construct nature	Dichotomous – legitimate or not legitimate	Ordinal, categorical – varies across groups	Continuous – places each organisation on a scale from best to worse
Competitive nature	Non-rival – not a zero-sum game, win-win mutual affirmation	Group-rival – positive-sum within group, but negative-sum across groups	Rival – dependent on individual-sting, can only increase (decrease) at expense of (benefit to) competitors
Sameness	Homogenization – conformity to a present wisdom that defines legitimacy	Segregation – low status groups mimic high-status groups to achieve group honour	Differentiation – dynamics encourage organisations to identify differences between each other
Structure	Form – legitimate like organizations by conformity using a collective template	Self-aware cliques – status groups with inclusion by favour by the group	Individual actors – ranking of individual organisations even when distinctions are slight
Power	Political – authority provides a taken-for-granted right to act	Honorific – social esteem, privileges and valorisation by association	Economic – an exchange partners' use of reputation to consider past performance to predict present preferences

Adapted from Duff (2016) and Deephouse *et al*. (2017)

Table 4: IC scorecard: attributes and description

Item	*Description*
Panel A: Internal (structural) capital	
1.1 Intellectual property	Patents, copyrights and trademarks
1.2 Management philosophy	Vision, mission, values and attitudes of organisation
1.3 Corporate culture	Social and psychological environment of an organization
1.4 Management processes	Organisational processes
1.5 Information systems	Development application and impacts of information systems
1.6 Communication systems	Development application and impacts of communication systems
1.7 Financial relations	Relationship between the organisation and sources of capital
Panel B: External (relational)capital	
2.1 Brands	The value of the organisation's brand
2.2 Clients	Relationships with clients
2.3 Client satisfaction and loyalty	How satisfied and enduring are client relationships
2.4 Firm reputation	How the organisation ranks in relation to other competitors
2.5 Distribution channels	Making services available to clients
2.6 Business collaborations	Collaborations with other organisations
2.7 Favourable contracts/licensing	Contracts and licenses gained or acquired by the organisation
2.8 Research and development	Research and development undertaken by the organisation
Panel C: Human (employee/partner) capital	
3.1 Employee/partner	Information relating to employees and partners
3.2 Education and vocational qualifications	Education and vocational qualifications provided
3.3 Training	Training provided by the organisation
3.4 Work-related knowledge	Knowledge acquired on the job by employees/partners
3.5 Innovativeness of employees/partners	The creativity and invention of employees/partners

Table 5: Mean number of intellectual capital disclosures per firm

Type of disclosure	Big Four	Firms 5-11	Firms 12-20	Total
Monetary quantified	26 (3%)	4 (1%)	2 (1%)	7.4 (2%)
Non-monetary quantified	62 (8%)	13 (4%)	8 (4%)	20.2 (6%)
Narrative, discursive	609 (79%)	260 (84%)	151 (85%)	273.2 (82%)
Pictures	73 (10%)	31 (10%)	17 (9%)	32.3 (10%)
Total per firm	770 (100%)	309 (100%)	178 (100%)	333.0 (100%)

χ^2(df) = 76.97 (6) p<.001; φ = .106; p < .001

Table 6: Analysis of mean number of disclosures by sector and intellectual capital category and element

Categories and elements of disclosure	Mean number of disclosures per firm per size grouping			
	Big 4	Firms 5-11	Firms 12-20	Average
Panel A: Internal (structural) capital category				
1.1 Intellectual property	1.0	0.1	-	0.3
1.2 Management philosophy	68.5	20.7	16.4	28.4
1.3 Corporate culture	17.0	4.3	3.4	6.5
1.4 Management processes	118.0	25.9	7.1	35.9
1.5 Information systems	3.8	-	0.7	1.1
1.6 Communication systems	1.8	-	0.1	0.4
1.7 Financial relations	22.0	15.4	5.3	12.2
Total internal capital	**232.0**	**66.4**	**33.1**	**84.6**
Total internal capital as % of total ICDs	***30%***	***22%***	***19%***	***25%***
Panel B: External (relational)capital category				
2.1 Brands	67.3	45.3	38.9	46.8
2.2 Clients	30.8	16.4	15.9	19.1
2.3 Client satisfaction and loyalty	29.5	13.9	14.1	17.1
2.4 Firm reputation	15.3	1.6	1.9	4.5
2.5 Distribution channels	3.3	3.9	2.4	3.1
2.6 Business collaborations	11.3	0.9	0.9	3.0
2.7 Favourable contracts/licensing	1.0	-	-	0.2
2.8 Research and development	1.0	0.4	-	0.4
Total external capital	**159.3**	**82.3**	**74.1**	**94.0**
Total external capital as % of total ICDs	***21%***	***27%***	***42%***	***27%***
Panel C: Human (employee/partner) capital category				
3.1 Employee/partner	200.0	86.0	38.4	87.4
3.2 Education and vocational qualifications	46.0	26.3	8.4	22.2
3.3 Training	32.8	9.1	8.6	13.6
3.4 Work-related knowledge	80.3	34.3	12.7	33.8
3.5 Innovativeness of employees/partners	19.3	4.1	2.3	6.4
Total human (employee/partner) capital	**378.3**	**159.9**	**70.4**	**163.3**
Total human capital as % of total ICDs	***49%***	***52%***	***40%***	***48%***
Total ICDs	**378.8**	**160.3**	**70.4**	**163.6**

Table 7: Proportion of ICD disclosures in each type of document

Document type	*Internal capital*	*External capital*	*Human capital*	*Total*
Annual review	600 (9%)	552 (8%)	432 (6%)	1,584 (23%)
CSR report	100 (1%)	61 (1%)	77 (1%)	238 (3%)
Web page	447 (7%)	742 (11%)	317 (5%)	1,506 (22%)
Recruitment website	456 (7%)	458 (7%)	2,256 (33%)	3,170 (46%)
Recruitment brochure	88 (1%)	67 (1%)	184 (3%)	339 (5%)
Total	1,691 (25%)	1,880 (27%)	3,226 (48%)	6,837 (100%)

χ^2(df) = 951.70 (6) p<.001; φ = .373; p < .001

Table 8: Analysis of mean number of disclosures by report type and intellectual capital category and element

Categories and elements of disclosure	Mean number of disclosures per report type					
	Annual review	CSR report	Web pages	Recruit. website	Recruit. lit.	Average across all reports
Panel A: Internal (structural) capital category						
1.1 Intellectual property	0.1	1.0	-	0.2	-	0.1
1.2 Management philosophy	16.6	35.0	11.3	5.3	10.0	10.5
1.3 Corporate culture	1.5	11.0	0.9	4.2	0.3	2.4
1.4 Management processes	14.6	48.0	11.7	12.4	11.5	13.2
1.5 Information systems	0.8	-	0.3	0.3	-	0.4
1.6 Communication systems	0.5	1.0	0.1	-	-	0.1
1.7 Financial relations	20.2	1.0	0.4	0.5	0.3	4.5
Total internal capital	**54.4**	**97.0**	**24.8**	**22.8**	**22.0**	**31.2**
Total internal capital as % of total ICDs	***38%***	***42%***	***30%***	***14%***	***26%***	***25%***
Panel B: External (relational) capital category						
2.1 Brands	19.5	4.0	25.5	11.5	7.3	17.3
2.2 Customers	12.2	7.0	6.8	5.0	4.5	7.0
2.3 Customer satisfaction and loyalty	13.5	6.0	4.6	4.5	4.0	6.3
2.4 Company reputation	1.6	28.0	1.2	0.9	0.3	1.6
2.5 Distribution channels	1.0	1.0	1.4	1.1	0.8	1.1
2.6 Business collaborations	1.6	10.0	1.6	0.2	-	1.1
2.7 Favourable contracts/licensing	0.3	-	0.1	-	-	0.1
2.8 Research and development	0.4	-	0.2	-	-	0.1
Total external capital	**50.2**	**56.0**	**41.2**	**22.9**	**16.8**	**34.7**
Total external capital as % of total ICDs	***35%***	***24%***	***49%***	***14%***	***20%***	***27%***
Panel C: Human (employee/partner) capital category						
3.1 Employee/partner	31.5	50.0	9.6	56.0	14.8	32.4
3.2 Education and vocational qualifications)	0.3	2.0	0.9	18.7	12.5	8.2
3.3 Training	1.6	12.0	1.4	9.9	4.8	5.0
3.4 Work-related knowledge	3.0	5.0	3.2	26.5	12.3	12.5
3.5 Innovativeness of employees/partners	2.8	8.0	2.6	1.8	1.5	2.3
Total human capital	**39.2**	**77.0**	**17.6**	**112.8**	**45.8**	**60.4**
Total human capital as % of total ICDs	***27%***	***33%***	***21%***	***71%***	***54%***	***48%***
Total ICDs	**143.7**	**230.0**	**83.6**	**158.5**	**84.5**	**126.4**

Table 9: ICDs by disclosure type

Categories and elements of disclosure	% of disclosures per report type				
	Monetary	Non-monetary	Narrative	Pictures	Average
Panel A: Internal (structural) capital category					
1.1 Intellectual property	-	-	0.1%	-	0.1%
1.2 Management philosophy	4.0%	5.1%	9.5%	1.1%	8.3%
1.3 Corporate culture	1.3%	1.4%	2.1%	0.2%	1.9%
1.4 Management processes	41.6%	28.3%	9.4%	1.5%	10.5%
1.5 Information systems	-	0.7%	0.3%	-	0.3%
1.6 Communication systems	-	-	0.1%	-	0.1%
1.7 Financial relations	37.6%	10.9%	2.5%	0.3%	3.6%
Total internal capital	**84.6%**	**46.4%**	**24.1%**	**3.0%**	**24.7%**
Panel B: External (relational) capital category					
2.1 Brands	6.7%	16.2%	15.2%	0.8%	13.7%
2.2 Customers	3.4%	3.1%	6.4%	0.9%	5.6%
2.3 Customer satisfaction and loyalty	0.7%	1.7%	5.7%	2.3%	5.0%
2.4 Company reputation	0.7%	5.6%	1.1%	0.3%	1.3%
2.5 Distribution channels	-	0.7%	1.0%	0.6%	0.9%
2.6 Business collaborations	1.3%	1.0%	0.9%	0.3%	0.9%
2.7 Favourable contracts/licensing	-	-	0.1%	-	0.1%
2.8 Research and development	-	-	0.1%	-	0.1%
Total external capital	**12.8%**	**28.3%**	**30.5%**	**5.2%**	**27.5%**
Panel C: Human (employee/partner) capital					
3.1 Employee/partner	2.0%	18.8%	19.3%	88.5%	25.6%
3.2 Education and vocational qualifications)	-	2.7%	7.7%	0.3%	6.5%
3.3 Training	-	1.9%	4.5%	1.7%	4.0%
3.4 Work-related knowledge	0.7%	1.2%	11.8%	1.1%	9.9%
3.5 Innovativeness of employees/partners	-	0.7%	2.2%	0.3%	1.9%
Total human (employee/partner) capital	**2.7%**	**25.4%**	**45.4%**	**91.8%**	**47.8%**
Total ICDs	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

FIGURE

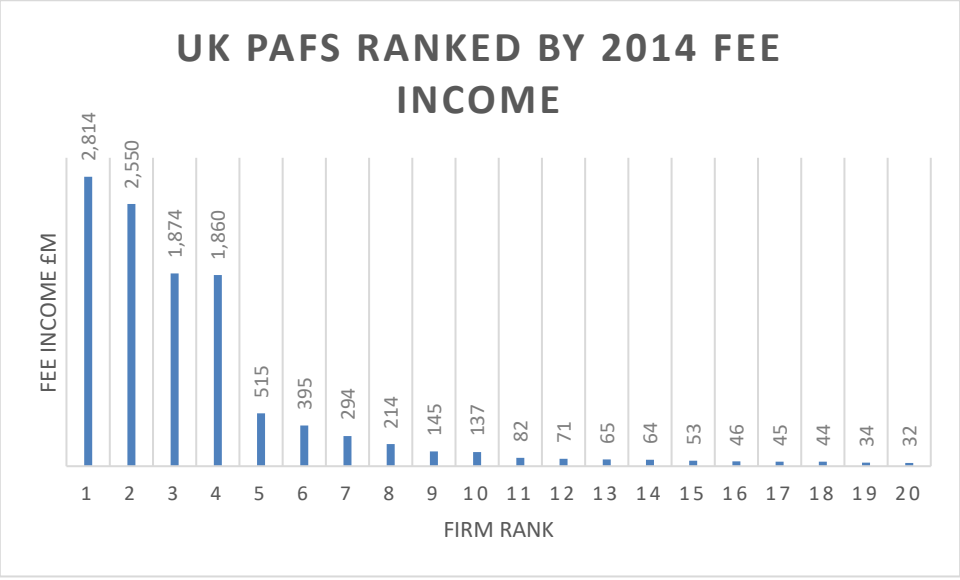

Figure 1: Largest UK accountancy firms by fee income (adapted from *AccountancyAge*, 2015)

[i] Of course, a desk-based study of ICDs can only identify target audiences for ICD consumption, rather than an interview-based approach where potential end-users report how their information needs are met.

[ii] A search suggests only two studies of PAFs' annual reviews (Duff, 2011, 2016) which make no reference to ICD.

[iii] The websites and recruitment materials were current. The annual reviews and CSR report related to 2013.

[iv] When size (by firm category) and disclosure (by IC type) are cross tabulated, a statistically significant effect is found (χ^2(df) = 270.04 (4) p<.001; φ = .285; p < .001).